TO: Office of Grants and Research Contracts
Attention: Code SC
National Aeronautics and Space Administration
Washington, D. C. 20546

[redacted]

FROM: Floyd C. Mann
Director
Center for Research on Utilization
of Scientific Knowledge
Institute for Social Research
The University of Michigan
Ann Arbor, Michigan 48106

TOPIC: Six months progress report of research under NASA Research Grant NGR-23-005-116.

Attached is a report of research activities under NASA Research Grant NGR-23-005-116 for the period from June 1, 1965 to November 30, 1965.

Floyd C. Mann
Paul E. Mott
Thomas F. Hagerty

[redacted]

Progress: June 1 to November 30, 1965

1. Staffing

   a. An additional person was added to the research team:

      Mr. Thomas F. Hagerty, a CRUSK Program Associate with extensive experience in executive and group work in business, was added to assume some of the administrative responsibilities and to help execute the utilization activities.

   b. A steering committee, composed of seven Office of Administration Division Directors, was established. This committee reviews in advance all activities in the research program.

2. Construction of questionnaire for data collection

   a. Questionnaire items were written by the research team and sent to the steering committee for their comments and suggestions. The questions were derived from the exploratory interviews, discussions with the steering committee, collaboration with another CRUSK team studying an analogous unit in a different government agency, and from previous ISR research.

   b. A meeting was held with the steering committee to discuss revisions and agree on final questionnaire content.

   c. The questionnaire was pretested on a small sample of OA respondents to check for intelligibility, relevance, and completion time.

   d. After minor revisions, as a result of the pretest, the questionnaire was completed.

3. Informing OA personnel about the study

   a. Through a series of small group meetings, members of the research team met with all OA Headquarters personnel to describe the study, explain what was being asked of OA people, and answer questions.

   b. A letter was sent from CRUSK similarly informing each OA person in the field.

4. Administration of the questionnaire

   a. The questionnaire was administered to groups of Headquarters OA personnel in the middle of October. After several follow-up sessions, 83% of all OA Washington personnel had returned the questionnaire.

[redacted]

b. Questionnaires were mailed to OA field personnel. After a second mailing, 98% of OA field people had returned questionnaires.

5. Collection of effectiveness data

   a. OA top management familiar with the work of the various OA divisions evaluated their overall effectiveness by means of a paired-comparison card sort.

   b. Items in the questionnaire asked for ratings of own division effectiveness, as well as the effectiveness of other divisions with whose work the respondent was familiar.

6. Utilization design

   a. A utilization design was developed by the research team in conjunction with the utilization design likely to emerge in the other CRUSK study of an analogous government unit.

   b. After discussions with the steering committee and the DAA/A, the design was "finalized." A copy is attached.

Current Activities

1. Data from the questionnaire are being processed and analyzed. Some initial descriptive data are available. Analyses of these data will continue steadily during 1966 and the results discussed with division directors in OA.

2. Final plans are being made for the start of the seminar series described in the attached design paper.

3. Discussions are being held with the steering committee to work out the specifics of the utilization activities.

Projected Activity

The seminar series will begin in early January of 1966. It is expected that the seminars will meet on a periodic, frequent basis through Spring, 1966, or until seminar participants might evolve a different format for utilizing the research.

August 31, 1965

CENTER FOR RESEARCH ON UTILIZATION OF SCIENTIFIC KNOWLEDGE / INSTITUTE FOR SOCIAL RESEARCH / THE UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

MEMORANDUM

TO: See Distribution List

FROM: Paul Mott and Tony Butterfield

SUBJECT: Proposals for Content of Phase III

Attached is a series of proposals for Phase III of the Michigan Study. The Steering Committee has seen an abbreviated form of these proposals, and we have attempted to incorporate their suggested revisions in the present document.

Phase III activities are the very core of our joint undertaking with you. They are what makes this study different from studies we have done in the past are are doing currently. They are also the activities that can have the highest "pay-off" for you and your organization. You will notice we are proposing a definite increase in your own time involvement on the project.

Please communicate your reactions and suggestions to the Steering Committee or, if you prefer, to us in Ann Arbor.

Distribution:

Young
Cushman
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Blankenbaker
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Stoddard
Lejko
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STUDY OF PROCESSES FOR THE UTILIZATION OF SCIENTIFIC FINDINGS FROM ORGANIZATIONAL BEHAVIOR RESEARCH

Objectives of Phase III

The body of scientific knowledge accumulating in the social sciences is potentially of great value to organizations in our society. But if it is not made available to these organizations, then that value is quite limited. For the social scientists it is primarily a body of theory, which is valuable as theory; it does not need to be used in any pragmatic way to satisfy him. While this objective is adequate for the creation of this body of knowledge for the scientist, it is not enough from the point of view of the society as a whole. Society supports scientists--and their theory building--on the assumption that as new ideas and facts are accumulated and organized in an increasingly meaningful way this knowledge can be used to accomplish the goals and improve the functioning of the society. The real virtue of building a body of social intelligence is to make it available to people who can use it in their work.

The process of transferring scientific knowledge is not an easy one, however. Industrial and governmental executives seldom are versed in the language of the social sciences. They are often so busy keeping abreast of their day-to-day problems that they do not have time to invest in learning what social scientists know that is applicable to their situations. Finally, social scientists do not readily speak the language nor understand the daily problems of executives and managers. They often fail to show how their feelings are applicable to the actual work and interests of their audiences.

The major objective of the Center for Research on Utilization of Scientific Knowledge is to study this information transfer process. We want to learn how best, in different situations, to obtain the maximum utilization of social intelligence. Every study conducted by the Center is designed to increase our knowledge of this information transfer process and to develop effective methods of transferring knowledge for different situations. The NASA study is one of these attempts to vary the method of inputting information and for studying the effectiveness of the method or methods chosen.

What are the unique features of the NASA study? In this instance we wish to experiment with the technique by which the members of the organization become their own change agents. A change agent is a person versed in the analysis of social science information who seeks to bring about changes in the organization based on information relevant to that organization. In the past, we have experimented with using social scientists who were not members of the organization as change agents. We have found that this method is seldom adequate because the social scientists is not a member of the organization. Therefore, his suggestions are in the form of recommendations and the perspective on which he operates is seldom understood by the people with whom he is dealing.

In this study we hope to overcome this disadvantage by having members of the organization become their own change agents. The process involves familiarizing the members with the language and findings of the social sciences and providing them with data on their own organization. We plan to organize a series of seminars in which this training will take place. We hope that gradually the members of the seminars will generate their own self-analysis and problem-solving systems.

STRUCTURE OF PHASE III

Step 1: Organization of Study Groups

A. Four study groups will be created which will include the division directors and their superiors in the Office of Administration. The study groups will be structured to be consistent with organizational families. An organizational family includes a supervisor and those people immediately below him who report to him. Below are the organizational families at the top levels in the Office of Administration, as we understand them.

Study Group I	Study Group II	Study Group III	Study Group IV
Young	Cushman	Hodgson	Young
Cushman	McCollom	Shea	Haynes
Hodgson	Blankenbaker	Clagett	Haase
	Stoddard	Fugler	Croxall
	Hanson	Sload	Einhorn
	McCauley		Lejko
			Webster

B. The members of these groups will change, of course, as the occupants of these positions change.

C. The composition of Study Group I will be completed as advised by Mr. Young.

Step 2: Information Input

A. We would like to retain some flexibility in the frequency and regularity of meetings of the study groups to allow for such factors as holidays, size of reading load, difficulty in the preparation of data runs, and unusual work loads of the group members. However, during the early weeks of the input process the study groups will meet for approximately two hours each week at a fixed time. The normal content and process of each meeting will be similar to the traditional seminar situation. The members will be provided with reading materials, data from the first survey, or both. They will review these materials individually during the following week. At the next meeting the materials will be discussed, expanded upon, or will provide the basis for further analysis of the data from the first survey along lines that the group feels would be helpful for their members' understanding and use in every-day problem-solving in their work.

B. In the initial meetings the agenda will be structured, but the discussions within each group will not be. The agenda during the first 15 to 20 meetings will be organized to accomplish the following:

1. The members of each seminar will become familiar with organizational concepts used by social scientists.

2. During the following several meetings, the members will examine alternately findings from the social sciences and the relevant data from the first survey of the NASA study. An example of this process is as follows:

    a. The presentation of all findings will be keyed on the concept of organizational effectiveness. The meaning of this concept will be discussed and the organizational factors that influence effectiveness will be examined.

       At this stage the members will be reviewing selected findings from studies done by social scientists.

    b. The members of each study group will be given data from the first survey keyed on the concept of organizational effectiveness. Among these data will be the rank orderings of the divisions in the Office of Administration by: a) the members of those divisions, b) the members of other divisions who have a working familiarity with the division, c) the key members of the front office of the Office of Administration.

    c. After the data on evaluations of effectiveness have been presented and discussed, we will begin systematically to examine the data relating other organizational factors to effectiveness. This data examination will parallel in content the theoretical leads developed out of 2-a above.

    d. Each member will be free to develop his own conclusions about the findings from earlier studies and from the NASA data. The members will be encouraged to share ideas and perspectives, but it is recognized that each individual must draw his own conclusions from the study group experience and shape them to the unique features of his situation.

3. Subsequent cycles of discussions of previous research and NASA data will focus on the areas of supervisory-subordinate relations and the problems and roles of professional workers in large (complex) organizations.

C. We plan to use different combinations of methods for making the findings from earlier studies available to the members of the seminars. The materials on organizational effectiveness will be selected original articles which will form the basis for seminar discussions in depth. For the area of supervisory- subordinate relations, the members of the seminars will not be exposed directly to the original materials. As a convenience, an extensive summary article has been prepared by a member of our staff. This summary will form the basis for group discussions and the members may request from us more detailed information about individual articles. Every attempt will be made to make the original articles available to the members of the seminars on request. For the area of the roles of professionals in bureaucratic organizations selected readings will be reviewed and the members will be provided with systematically organized summaries of the major studies. We wish to evaluate the effectiveness of each of these methods of introducing data. Our evaluations will be based on our own observations and those obtained from discussions with study group members.

D. There will be variations in the structure of the study group meetings. We will utilize noted specialists in each of the areas we examine whenever practicable or desirable. For example, we will ask Dr. Rensis Likert to join us at some point during the discussion of supervisory-subordinate relations.

Also, we will vary the composition of each group, if doing so will enhance the effectiveness of the subject currently under discussion. For example, if the groups were to discuss the problems encountered in large organizations due to the lengthening of hierarchical chains of communication, it might be appropriate to ask Mr. Young to attend the meetings of Groups II and III.

E. The Steering Committee will continue to function during this period, providing the Michigan group with direction, feedback, suggestions, and criticism. This group will be asked to examine readings in advance and discuss their appropriateness for the study groups. They will also help in the construction of the basic agenda and the coordination of study group activities.

Step 3: Group Directed Activities

A. We anticipate that it may take as many as twenty meetings to complete the basic input of information. Following this highly structured phase we expect the agenda for subsequent meetings to be generated by the members of the study groups rather than by members of the Michigan research team. There is no hard and fast point in time when this conversion will occur. In some groups it will take place during highly structured discussions of basic findings; in others, it will happen only after all of the basic findings have been discussed. We expect that each study group will experience both different rates and different kinds of learnings. (A problem all groups will have in common is how to share their unique learnings with the other groups.)

B. During this step, the members of the groups will decide which areas, if any, they wish to pursue in greater detail. The members of the Michigan team will serve as resource persons. The members of each group will follow their own agenda, order data from the first survey, and request additional information on findings from the social sciences. The objective of this step is to have the individual members of the study groups examining in greater detail the organizational problems that concern them individually, in the context of the background provided in Step 2. At this time, the composition of the study groups may be changed so that people concerned about similar problems can share their ideas, experiences, and conclusions.

C. The members of the Michigan research team will also work with the members of the groups individually, if that is desirable.

D. Within the limits of the budget for the study, the study groups may request spot surveys designed to provide additional detailed information on a subject under study.

Step 4: Analyzing the Change Process

A. The members of the research team have two general interests in this study: studying the effectiveness of certain feedback procedures and experimenting with the measurement of change.

B. Our primary interest is in the efficacy of a slower and more intensive information input than we have employed in earlier studies.

It is not necessary for us to contrive an experimental situation within the NASA study groups in which the rate and intensity of input are varied. Indeed, the size and structure of the Office of Administration would make conclusions based on this type of deliberate experimental variation within the organization tenuous at best and misleading at worst. We will be making inputs of similar data in an analogous agency in the government where the rate of input will be much more rapid and the involvement of ISR personnel much less intensive. We will be able to compare the effectiveness of the NASA procedure with that of the other study and with earlier studies in which ISR personnel have been involved.

C. We wish to measure the effectiveness of the NASA input methods using a variety of experimental and traditional measurement techniques. The major techniques to be studied are as follows:

1. A second questionnaire following one year after the first survey, which is administered to the same people, will reveal changes in a variety of organizational characteristics. We will attempt to partial out statistically the various sources of these changes and determine the extent to which the study itself was a factor.

2. Using a statistical procedure for qualitative data--content analysis--we will analyze a variety of data where change might occur. Among the potential data sources are: staff meeting notes, minutes, recordings, front office logs, conversations with participants in the study groups.

3. Specialized, (and brief) questionnaires will be filled out by the members of the study groups. These questionnaires will be designed to test the impact of the various information transfer procedures as reflected, for example, in changes in knowledge, perceptions and behavior.

4. These measures will be taken from-time-to-time during the course of the second year of the study.